What Is Claimed Is:

1. A system, in kit form, for isolating plasmid DNA from an aqueous sample, which system comprises, in separate containers, particulate glass and a buffered aqueous salt solution having a pH value in the range of 7 to 8, said solution containing;

a) a salt at a concentration of at least 3 molar, and

b) a buffering agent at a concentration sufficient to provide a buffering capacity corresponding to that which 0.1 to 1 molar tris(hydroxymethyl)aminomethane or 0.1 to 1 molar phosphate ion would provide in said solution.

2. The system of claim 1 wherein said buffered salt solution is substantially free of cyclohexanediamine tetraacetate.

3. The system of claim 1 further containing a sieve at least about 1 inch in diameter and having a mesh size in the range of 90 to 350.

4. The system of claim 1 further containing, in a separate package, a sample of control plasmid DNA.

5. The system of claim 4 wherein said control plasmid DNA is present in a viable host cell capable of supporting replication of said control plasmid DNA.

6. The system of claim 1 further containing, in a separate package, a unit dose of a dry-concentrate of a culture medium capable of supporting growth of cells containing said plasmid DNA.

7. The system of claim 6 wherein said medium is in tablet or capsular form.

8. The system of claim 1 wherein said buffered aqueous salt solution has a pH value in the range of 7.2 to 7.8.

9. The system of claim 1 wherein said salt is selected from the group consisting of NaI, NaBr,

NaCl, KI, KBr, CsCl, GNHCl and GNSCN.

10. The system of claim 1 wherein said salt concentration is in the range of 4 to 6 molar.

11. The system of claim 1 wherein said particulate glass has a sedimentation rate through still water at unit gravity in the range of about 0.001 to about 1.0 cm/min.

12. A system, in kit form, for isolating plasmid DNA from a sample containing RNA and said DNA, which system comprises, in separate containers;

a) particulate glass; and

b) a buffered aqueous salt solution having a pH value in the range of 7.2-7.8, said solution consisting essentially of:

i) 2 M NaI,

ii) 2.6 M KBr, and

iii) 0.66 M tris(hydroxymethyl)aminomethane.

13. The system of claim 12 further containing, in unit dose form, a dry-concentrate of a culture medium capable of supporting growth of cells containing said plasmid DNA.

14. A system, in kit form, for isolating nucleic acid molecules, which system comprises a composition comprising particulate glass having a sedimentation rate through still water at unit gravity in the range of about 0.001 to about 1.0 cm/min.

15. A system, in kit form, for isolating DNA from an aqueous sample, which system comprises, in separate containers, particulate glass and a dry buffered salt admixture which upon dissolution in a predetermined amount of distilled water provides a solution having a pH value in the range of 7 to 8, said buffered salt admixture containing:

a) a salt in an amount sufficient to provide a concentration of at least 3 molar upon said

dissolution, and

b) a buffering agent at a concentration sufficient to provide a buffering capacity corresponding to that provided by 0.1 to 1 molar aqueous tris(hydroxymethyl)aminomethane or 0.1 to 1 molar aqueous phosphate ion.

16. A method for isolating plasmid DNA from a sample containing RNA and said DNA, which method comprises:

a) forming a binding reaction admixture by admixing said sample with an insoluble silica matrix and a buffered aqueous salt solution having a pH value in the range of 7 to 8, said solution containing i) a salt at a concentration of at least 3 molar, and ii) a buffering agent at a concentration sufficient to provide a buffering capacity corresponding to that which 0.1 to 1 molar tris(hydroxymethyl)aminomethane or 0.1 to 1 molar phosphate ion would provide in said solution;

b) maintaining said binding reaction admixture for a time period sufficient for said DNA to bind to said matrix to form an insoluble DNA-matrix complex and a remaining admixture;

c) separating said remaining admixture and said complex to form an isolated complex; and

d) recovering said DNA from said isolated complex to form isolated plasmid DNA.

17. A method for isolating DNA from an agarose gel sample containing said DNA, which method comprises:

a) forming a gel-dissolving reaction admixture by admixing said sample with a buffered aqueous chaotropic salt solution having a pH value in the range of 7 to 8, said solution containing i) a chaotropic salt at a concentration of at least 3

molar, and ii) a buffering agent at a concentration sufficient to provide a buffering capacity corresponding to that which 0.1 to 1 molar tris(hydroxymethyl)aminomethane or 0.1 to 1 molar phosphate ion would provide in said solution;

b) maintaining said gel-dissolving reaction admixture at a temperature of about 45 to about 65 degrees C for a time period sufficient for said gel sample to dissolve to form a dissolved sample;

c) admixing said dissolved sample with an insoluble silica matrix to form a binding reaction admixture;

d) maintaining said binding reaction admixture for a time period sufficient for said DNA present in said sample to bind to said matrix to form a solution containing dissolved agarose and an insoluble DNA-matrix complex;

e) separating said complex from said dissolved agarose to form an isolated complex; and

f) recovering said DNA from said isolated complex to form isolated DNA.

18. A dry-concentrate culture medium composition in unit dose comprising an amount of cell culture medium in dry-concentrate form sufficient to prepare a preselected amount of culture medium, said dry medium packaged in unit dose form.

19. The composition of claim 18 wherein said unit dose packaging is in the form of a capsule containing said dry culture medium.

20. The composition of claim 19 wherein said dry culture medium is LB-broth.

21. The composition of claim 18 wherein said unit dose packaging is dissolvable.